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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,514	02/16/2001	Jian-Bing Fan	A-68970-1/DJB/RMS/DCF	5362

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Robin M. Silva, Esq.
FLEHR HOHBACH TEST ALBRITTON & HERBERT LLP
Four Embarcadero Center, Suite 3400
San Francisco, CA 94111-4187

EXAMINER
CHAKRABARTI, ARUN K

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 04/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/785,514	Applicant(s) FAN ET AL.	
	Examiner Diana Johannsen	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *1-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Detailed Action* .

DETAILED ACTION

Specification

1. Applicant's election of claims 14-26, corresponding to Group II, in paper Number 11 is hereby acknowledged. Non-elected claims 1-13 have been canceled without prejudice towards further prosecution.

Claim 21 is misnumbered. It has two steps having the same number c). Proper correction is advised.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CAR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CAR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CAR 3.73(b).

3. Claims 14-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,355,431 B1.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-30 of U.S. Patent No. 6,355,431 B1 clearly teach the instant claimed method of genotyping comprising:

a) providing an array composition comprising:

I) a substrate with a surface comprising discrete sites; and

ii) a population of microspheres comprising at least a first and a second subpopulation, wherein the microspheres of each subpopulation each comprise a plurality of target analytes attached to the microspheres with first and second attachment moieties, respectively;

wherein the microspheres are randomly distributed on the surface;

b) contacting the array composition with a first set of extension probes that hybridize with at least the first target sequence adjacent to a first detection position to form an extension complex;

c) contacting the extension complex with a composition comprising:

I) at least a first nucleotide;

ii) polymerase;

wherein the polymerase extends a first extension probe with the first nucleotide when the first nucleotide is complementary to the first detection position of the first target sequence; and

d) detecting the presence of a first nucleotide and also a method further comprising adding a ligase to form a ligation complex (Claim 6).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

5. Claims 14-26 are rejected under 35 U.S.C. 102 (e) as being anticipated by Beattie et al. (U.S. Patent 6,268,147 B1) (July 31, 2001).

Beattie et al teach a method comprising:

a) providing an array composition (Figure 6, Column 6, lines 6-13, and Example 18) comprising:

I) a substrate with a surface comprising discrete sites (Figures 6, 15A-B); and

ii) a population of microspheres comprising at least a first and a second subpopulation, wherein the microspheres of each subpopulation each comprise a plurality of target analytes (Figures 15A-B and Example 18);

wherein the microspheres are randomly distributed on the surface (Example 18);

b) contacting the array composition with a first set of readout probes (Figures 13 A-B and Example 18);

c) detecting the presence of a first target analyte (Figures 13 A-B and Example 18);

d) contacting the array composition with a second set of readout probes (Figures 13 A-B and Example 18);

e) detecting the presence of a second target analyte (Example 18), wherein the two sets of probes comprise two sets of labels (Example 18).

Beattie et al teach a method further comprising detecting the first label as an indication of the presence of the first target analyte (Example 18).

Beattie et al teach a method, wherein the first and second target sources are first and second patients (Figure 4, and Example 2).

Beattie et al inherently teach a method of genotyping comprising:

a) providing an array composition (Figure 6, Column 6, lines 6-13, and Example 18) comprising:

I) a substrate with a surface comprising discrete sites (Figures 6, 15A-B); and

ii) a population of microspheres comprising at least a first and a second subpopulation, wherein the microspheres of each subpopulation each comprise a plurality of target analytes attached to the microspheres with first and second attachment moieties, respectively (Figures 15A-B and Example 18);

wherein the microspheres are randomly distributed on the surface ();

b) contacting the array composition with a first set of extension probes that hybridize with at least the first target sequence adjacent to a first detection position to form an extension complex (Figure 14);

c) contacting the extension complex with a composition comprising:

I) at least a first nucleotide (Figure 14);

ii) polymerase (Example 12 and Figure 14);

wherein the polymerase extends a first extension probe with the first nucleotide when the first nucleotide is complementary to the first detection position of the first target sequence (Example 12); and

d) detecting the presence of a first nucleotide (Example 18).

Beattie et al inherently teach a method, wherein the first nucleotide comprises a label (Example 18).

Beattie et al inherently teach a method of determining the identification of a nucleotide at a detection position in at least a first target sequence comprising:

a) providing an array composition (Figure 6, Column 6, lines 6-13, and Example 18)) comprising:

I) a substrate with a surface comprising discrete sites (Figures 6, 15A-B); and

ii) a population of microspheres comprising at least a first and a second subpopulation, wherein the microspheres of each subpopulation each comprise a plurality of target analytes (Figures 15A-B and Example 18);

b) forming a first hybridization complex between the target sequence and at least a first readout probe (Example 18);

c) determining the nucleotide at the detection position (Example 18).

Beattie et al teach a method further comprising adding a ligase to form a ligation complex (Column 12, line 48 to column 13, line 13).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Chakrabarti, Ph.D. whose telephone number is (703) 306-5818.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached on (703) 308-1152.Any inquiry of a general nature or relating to the status of this application should be directed to the Group analyst Chantae Dessau whose telephone number is (703) 605-1237. Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission via the P.T.O. Fax Center located In Crystal Mall 1. The CM1 Fax Center numbers for Technology Center 1600 are either (703) 305-3014 or (703) 308-4242. Please note that the faxing of such papers must conform with the Notice to Comply published In the Official Gazette, 1096 OG 30 (November 15, 1989).

Arun kr. Chakrabarti

ARUN K. CHAKRABARTI
PATENT EXAMINER

Arun Chakrabarti
Patent Examiner
Art Unit 1634

April 8, 2002